Before the
FEDERAL COMMUNICATIONS COMMISSION

In the Matter of	)	
	)	
Amending the Definition of Interconnected VOIP	)	
Service in Section 9.3 of the Commission's Rules	)	GN Docket No. 11-117
	)	
Wireless E911 Location Accuracy Requirements	)	PS Docket No. 07-114
	)	
E911 Requirements for IP-Enabled Service	)	WC Docket No. 05-196
Providers	)	

COMMENTS OF BANDWIDTH.COM, INC.

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SUMMARY

Bandwidth.com, Inc. ("Bandwidth.com") supports the Federal Communications Commission's ("Commission") continued dedication to keeping pace with the rapidly evolving communications marketplace and its impacts on emergency calling capabilities. Bandwidth.com believes that rules related to emergency calling for IP-enabled communications should aim to achieve the most cost-effective and technically feasible public safety support possible while at the same time encouraging entrepreneurial service developments. The adoption of a "light-touch" regulatory regime complimented by a well-reasoned, industry-led and -developed certification and labeling program can advance public safety needs while spurring investment and innovation in the communications industry broadly. In order to avoid unnecessarily restricting consumer benefits that allow use of any device, anytime, anywhere, the Commission should establish general governing principles to advance public safety goals instead of adopting strict requirements that might favor particular technologies.

Bandwidth.com believes that the best way to achieve improvements with respect to end-user location information is first to understand that network access providers will be in the best position to capture subscriber location information. In order to expand the universe of 911-capable services and improve location accuracy, the Commission must embrace a next generation 911 ("NG911") design that requires network access providers to work together with 911 providers and others to provide location information through location information servers ("LIS"). Further, to the extent the Commission expands its existing 911 rules to reach more IP product and service providers, it should couple its expanded rules with additional legal rights and protections for providers that demonstrate good faith efforts to support 911 for their services.

Finally, the Commission must develop its rules concerning services and location capabilities with an eye toward the future implementation of full NG911, not just the current 911 system, and should not attempt to recreate stale concepts in a next generation environment. IP-enabled services are at the core of the issues related to NG911 networks and so the issues in this proceeding will necessarily converge with those being considered in the Commission's NG911 proceeding.[1]

[1] *See generally* Facilitating the Deployment of Text-to-911 and Other Next Generation 911 Applications, PS Docket No. 11-153; Framework for Next Generation 9-1-1 Deployment, PS Docket No. 10-255, *Notice of Proposed Rulemaking*, (Rel. Sept. 22, 2011) ("*NG911 NPRM*").

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COMMENTS OF BANDWIDTH.COM, INC.

Bandwidth.com, Inc. ("Bandwidth.com") hereby submits its comments in response to the Federal Communications Commission's ("Commission" or "FCC") Notice of Proposed Rulemaking and Second Further Notice of Proposed Rulemaking.[2] The Commission's goal to rapidly enable real-time identification of the physical location of IP-enabled or interconnected Voice over Internet Protocol ("VoIP") 911 callers is both critical and achievable.[3]

[2] *In the Matter of Amending the Definition of Interconnected VoIP Service in Section 9.3 of the Commission's Rules; Wireless E911 Location Accuracy Requirements; E911 Requirements for IP-Enabled Service Providers*, Further Notice of Proposed Rulemaking and Notice of Inquiry, GN Docket No. 11-117, PS Docket No. 07-114, WC Docket No. 05-196, (rel. July 13, 2011) ("*Third Report and Order*" and "*Second FNPRM*").

[3] *See* National Broadband Plan, Chapter 16, "Public Safety," Section 16.3, "Leveraging Broadband Technologies to Enhance Communications with the Public," at 313.

NG911 networks have the capability not only to include new and evolving communication services but also to advance public safety capabilities along the way. Bandwidth.com is uniquely prepared to unleash a wealth of 911 capabilities and features with a transition to a full-fledged Next Generation 911 emergency services network ("NG911").[4] In fact, Bandwidth.com's industry-leading technology and services already make real-time location information available to wireline and static and nomadic VoIP customers. This technology is a critical component of enhanced emergency and NG911 capabilities offered by other innovators. Bandwidth.com's services are designed with NG911 standards and infrastructures in mind and, thus, can be easily incorporated as the availability of NG911 solutions expands.

If the Commission decides that it is in the public interest to expand the definition of VoIP for 911 purposes or to assign additional location accuracy obligations to VoIP providers, it must do so in a manner consistent with its goal of accelerating the move to NG911.[5]

I. INTRODUCTION

Among Bandwidth.com's areas of communications expertise is routing E911 calls to the appropriate Public Safety Answering Point ("PSAP") on behalf of its service provider customers. In order to route and deliver 911 calls on its customers' behalf, Bandwidth.com manages a nationwide network that connects to virtually all of the 650 selective routers and automatic location identification ("ALI") databases operated by the 911 System Service Providers ("SSPs")

[4] *See Second FNPRM* nn. 20-21.

[5] *See Second FNPRM* ¶ 9 (noting that the National Broadband Plan "recommended that the Commission examine approaches for leveraging broadband technologies to enhance emergency communications with the public by moving towards [NG9-1-1]"); *see also* Statement of Chairman Julius Genachowski, *Second FNPRM* app. at 1 ("We are hard at work developing a game plan to accelerate next-generation 9-1-1, and I will continue to make this an agency priority.").

and standalone jurisdictions across the country. Bandwidth.com's services enable its customers to meet today's ever-evolving emergency calling needs.

Bandwidth.com implemented its emergency routing systems in parallel with the development of NG911 standards developed by the National Emergency Number Association ("NENA").[6] Thus, while Bandwidth.com's deployed system delivers calls based on the current E911 system capabilities, it will also be capable of routing calls consistent with the NG911 standards established by NENA when NG911 networks are implemented. Given Bandwidth.com's NG911 technology, its existing nationwide network, 24x7x365 operations and technical support, and its robust operations support systems, Bandwidth.com has begun offering solutions to 911 authorities that want to roll out NG911. Since Bandwidth.com is engaged in the full spectrum of both E911 and NG911 services to carriers and 911 authorities as well as being both a wholesale and retail IP-enabled service provider, it is in a unique position to respond to the Commission's proposals and inquiries. Further, while Bandwidth.com does not provide position determination equipment or PSAP call-handling equipment, Bandwidth.com's services support all standards-based products in both of these areas.

In response to the request for comments in the *Second FNPRM*, Bandwidth.com believes the Commission's policies regarding IP-enabled communications and NG9-1-1 networks should incorporate several key principles. Foremost among these is consumer expectation. In the *Second FNPRM*, the Commission seeks comment on whether the extension of VoIP 911 rules to additional products and services should be based upon a reasonable consumer's expectation as to the functionality of the product or service.[7] If a reasonable consumer would expect that a

[6] *See NG9-1-1 NOI* ¶76 (noting the NENA i3 Solution).
[7] *See Second FNPRM* ¶¶ 42, 43, 48 (citing comments filed by NENA, Texas 9-1-1 Agencies, AT&T, Sprint Nextel, TCS, MobileTREC, and Dash in *Wireless E911 Location Accuracy*

particular device or service to provide 911 capabilities, that device or service ought to enable robust 911 regardless of the technology involved. Having said this however, Bandwidth.com also believes the Commission should impose a "light-touch" regulatory regime that continues to encourage market-driven innovations complimented by a well-reasoned, industry-led and developed certification and labeling program. Bandwidth.com supports the Commission's decision not to impose specific requirements on every service, product or entity involved in the 911 system, but rather to adopt "general governing principles" that encourage and support technological innovation.[8] Further, much in the way that it has dealt with similar issues in the wireless industry,[9] any new regulations applied to IP-enabled services should avoid requiring specific technological solutions. Mandating a particular technological solution could limit IP-enabled service innovation and ultimately constrain the functionality of the NG911 system as well. Bandwidth.com also believes that the Commission must ensure that as the nature of the products and services subject to the Commission's 911 regulations evolve, all providers that in good faith engage in the shared effort to deliver IP-enabled emergency calls should receive liability protections. Finally, as the Commission works to enhance the availability of end-user location information it should be forward looking and not attempt to foist legacy concepts onto a new and ever-evolving environment where they do not fit. For example, since ALI database service, as it exists today, goes away in the NG911 system, proposed solutions involving ALI must evolve to incorporate new IP-enabled location capabilities. Any regulations the

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Requirements and E911 Requirements for IP-Enabled Service Providers, PS Docket No. 07-114, WC Docket No. 05-196, *Further Notice of Proposed Rulemaking and Notice of Inquiry*, 25 FCC Rcd 18957 (2010) ("*Location Accuracy FNPRM*")).

[8] *See e.g. Second FNPRM* ¶ 3.

[9] *See Second FNPRM* ¶¶ 19-23 (discussing network-based standard sunset after eight-year implementation period).

Commission imposes should not only be applicable in today's environment, but should support the full rollout of NG911.

II. COMMENTS

A. Customer Expectation Should Play a Critical Role in Whether and to What Extent New Technologies or Services are Subject to the Full Range of NG9-1-1 Regulations

As Bandwidth.com has previously advocated, whether to require 911 support for any given communications service should be driven first and foremost by the reasonable expectations of the subscriber.[10] The Commission's guiding principal driving the ultimate service descriptions subject to requirements for 911 services should be the expectation of a "reasonable person." If a device looks like a phone, if the service behaves like telephone service, if the services are marketed and include charges that create expectations that emergency calling is available, then 911 should be included.[11] Regulatory definitions that are built on specific technical aspects of a product or service may have a short "shelf life," and may not be readily understood by end-users either.

As the Commission observes, both the technology and the nature of communications is changing rapidly.[12] However, while the form of end-users' communications are becoming more

[10] *See* Comments of Dash, *Location Accuracy FNPRM*, at 9 (filed Jan. 19, 2011) ("A subscriber using a device that has a keypad with 12 buttons and is capable of establishing two-way voice communications to another party has a reasonable expectation that if he dials 9-1-1, help will arrive, wherever he may be located.") ("Dash Location Accuracy Comments").
[11] *See* The VON Coalition *Ex Parte*, WC Docket 05-196, PS Docket 07-114 (filed March 29, 2011)("to the extent E911 or next generation 911 obligations are extended, it should be considered only for those voice applications or offerings that are designed to provide essential qualities of a telephone service, which is the ability to call anyone and receive a call from anyone in the world.")
[12] *See Second FNPRM* ¶¶ 45, 50.

varied all the time, fundamental expectations remain that dialing 911 will ultimately result in the delivery of emergency services to the end-user's location. The challenge facing the Commission is correctly identifying the limits of consumers' reasonable expectations while ensuring such limits do not unnecessarily restrain innovation. In that regard, Bandwidth.com commends the Commission's proposal to revise its definition for VoIP for 911 purposes to capture calls connecting to "E.164 telephone numbers rather than the PSTN."[13] Technology changes at a pace that far exceeds the pace of regulatory change. Therefore, adopting "future proof" governing principles as opposed to technology-specific definitions or rules is a more sound approach.[14]

As services and technologies evolve to include a wider array of providers than have historically been contemplated by emergency telecommunications regulations, the concept of a certification and labeling program warrants a new look. Under this approach, phones or other devices that fit squarely within a Commission-defined standard set of reasonable end-user expectations would be required to provide full 911 services. Devices or services that deviate from the "standard" would be subject to an alternative determination or certification process based on criteria established by a third-party such as NENA, APCO or NIST. Then, results of testing or an audit of some sort would establish the content and form of a label that a device or service must display, clearly communicating the level of emergency services available to the subscriber. This approach would be technology-neutral and dynamic in nature, thus promoting competition and innovation while protecting public safety.

The ongoing rollout of NG911 includes another reason for considering a certification and labeling program. As the *NG911 NOI* indicated, NG911 supports the delivery of supplemental

[13] *Second FNPRM* ¶ 30.
[14] *See Second FNPRM* ¶¶ 3, 72.

information to PSAPs along with the call.[15] This supplemental information can be text, photos, or full motion video. Whatever the format, NG911 networks can provide first responders additional, relevant information about circumstances at the caller's location.[16] New devices and services will promote their capabilities to deliver this supplemental information. To be fully useful, each of these new devices or services must be compatible with the NG911 system, the NG911 system must be deployed in the subscriber's area, and the PSAP must be willing and able to accept such data. As demonstrated by the industry's adoption of Phase II location technology for wireless providers, full implementation of new capabilities may take time. Given the potential variability in functionality and performance of IP-enabled services, consumers may have a hard time making buying decisions without a standardized format for communicating to the subscriber the specific capabilities supported by a particular device. With Commission rules that provide clear guidance as to the content and format of information that is provided to subscribers regarding the capabilities of particular devices and the NG911 system, consumer expectations and behaviors will adjust accordingly.

With respect to the potential time line under which new mandates may be required to be implemented by covered providers, Bandwidth.com believes the experience of the wireless industry and the commentary included in the *Third Report and Order* is instructive.[17] Regulatory mandates inserted into an evolving marketplace are more likely to be successfully

[15] *See NG911 NOI* ¶ 21 ("NG911 networks are capable of supporting multiple voice and non-voice services, whereas legacy 911 supports voice only.").
[16] *See id.* ¶ 23 ("[C]urrent standards-based architectures for NG911 envision a more active role for end-user devices and systems in identifying emergency calls and acquiring the caller's location information. This makes it easier for NG911 networks to add media beyond voice. . . .").
[17] *See Third Report and Order* ¶¶ 16 *et seq*.

implemented through a phased-in approach.[18] The Commission's imposition of onerous location requirements on wireless providers before many PSAPs were able to accommodate the new information ultimately led to numerous waivers, extensions of deadlines and delay. The Commission should avoid a similar "hurry-up-and-wait" implementation schedule for IP-enabled services. Further, flash-cut mandates for a new class of IP-enabled services are also unlikely to be fully effective because the roll-out of NG911 networks that are capable of supporting innovative IP services will occur over time and in phases across the country. State and local governments across the United States are beginning to contemplate the implementation of NG911 for rapidly evolving services, but there is an extremely wide range of readiness at this point in time. Mandating an immediate compliance deadline for a new category of services is unlikely to be compatible with this fact.

Therefore, Bandwidth.com encourages the Commission to establish an appropriate transition timetable to enable providers to make any modifications deemed necessary in this proceeding to move to a NG911 world. The Commission should enlist the involvement of the industry organizations such as ICO, NENA and APCO to develop and manage the full transition to NG911. Any such timeline should be tied to the ability of PSAPs to accept NG911. It is inefficient for the Commission to impose a deadline for NG911 implementation on carriers and other service providers if the PSAPs are not able to accommodate the new technologies and systems.

[18] *See id.* ¶¶ 20-21 and nn.61-63.

B. The FCC Should Adopt Policies that Set Clear Expectations and Facilitate Collaboration and Coordination Among Stakeholders

As a 911 and NG911 solutions provider, Bandwidth.com recognizes the importance of consistent, uniform guidelines that shepherd regulators, industry and consumers toward a shared goal of providing the most cost-effective emergency communications support possible. Without clear common guiding principles, communications innovation can quickly become incompatible with emergency support systems. However, too much regulation can also have a deleterious effect on development, stifling creativity and limiting options for providers and consumers alike. Therefore, while Bandwidth.com recommends the Commission allocate certain responsibilities among several types of entities and impose corresponding regulations, it is imperative that the Commission also define the relative rights, responsibilities and protections accorded to those entities.

Bandwidth.com believes that the overarching goal of emergency communications should be the capability to provide emergency service support to any device, anytime, anywhere. Several federal agencies have developed grant programs that have either directly or indirectly helped start the migration toward NG911 with this goal in mind. Thus, PSAPs, carriers, service providers, and technology companies have already started developing and implementing their NG911 solutions. However, if service providers move forward, because of regulatory mandates or otherwise, without clear coordination with the broader set of industry participants the path to full, nationwide NG911 deployment will be uneven and unpredictable. Wireless carriers, wireline carriers, VoIP service providers, and their 911 service providers, such as Bandwidth.com, could be forced to operate in an unnecessarily diverse and costly environment. Such inefficiencies will ultimately translate into higher costs and confusion for consumers.

The Commission can mitigate the likelihood of some of these potential unintended consequences by establishing clear expectations for all parties and, working with the 911 Implementation Coordination Office ("ICO"), NENA and other organizations, assist in the coordination of the rollout of NG911 infrastructure and solutions.[19] Ultimately, the FCC must ensure that any location standards or service definitions it adopts in this proceeding are consistent with the implementation of NG911 networks and are competitively and technologically neutral.

Toward that end, Bandwidth.com continues to believe that an approach that builds upon the concept of certifying providers and emergency service solutions combined with an effective labeling program will yield the most effective results. Under such an approach, the Commission can assign roles and responsibilities and varying degrees of regulatory oversight to each of the types of entities that comprise the full NG911 architecture, from consumer-facing devices all the way to the PSAPs. Each entity that wishes to participate in a given capacity could seek certification for a particular role. Once certified, it would have all of the rights and be subject to all of the responsibilities for that role. Certain high-impact or critical roles would require the most robust regulatory oversight, but others could actually be managed by the industry through the certification process.

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[19] See Reply Comments of Vonage Holdings Corp., PS Docket No. 07-114, WC Docket No. 05-196, at 4 (filed Feb. 18, 2011) ("Accordingly, the most promising and effective path forward is a collaborative process involving industry and public-safety representatives. The comments received reflect a broad consensus in favor of encouraging stakeholders, including network providers, public safety, vendors, and government, to develop and implement best practices and standards.") ("Vonage Reply Comments"); Reply Comments of Cisco Systems, Inc, PS Docket No. 07-114, WC Docket No. 05-196, at 1 (filed Feb. 18, 2011). ("Cisco recommends that the most effective action the Commission could take currently is to articulate clear goals for the application of location requirements for emergency calling, as opposed to mandating specific requirements for location information. Standards bodies are the best place to resolve location data availability issues, and the Commission should leverage the role of such organizations to the maximum extent possible before considering regulatory mandates.")

In addition, the Commission should ensure that where new products or services become subject to its 911 regulations, either because they fall within the definitions of covered services or the service provider otherwise supports critical 911 functionality, the protections extended to regulated services also apply. Bandwidth.com continues to believe that liability protections should extend to all parties involved in the delivery of IP-enabled 911 calls for emergency response.[20] Therefore, Bandwidth.com agrees with the Commission's suggestion that broadband service providers and VoIP providers should both be covered by otherwise established and available liability protections.[21] If they provide 911/E911 capabilities, they would be entitled to the same level of protection afforded regulated providers.

C. Rules Must Accommodate Multiple Location Solutions

The ability to accurately determine an IP-enabled service subscriber's location and deliver the initial location and updates to PSAPs and public safety personnel is vital to ensure a timely response to 911 calls. Regardless of the technology involved, it is critical that NG911 systems accommodate multiple location solutions. The systems that Bandwidth.com will deploy will fully support call routing and delivery based on the location provided independent of the mechanism used. Bandwidth.com believes that the Commission's proposal to adopt general location accuracy governing principles that would allow for flexible, "technologically efficient

[20] *See* Reply Comments of Bandwidth in response to *NG911 NOI* at 7-8 (noting broad consensus among commenters that liability protection would need to be expanded to ensure the continued growth and development of NG911 compatible applications and services); *see also* NENA Comments at 2; AT&T Comments at 25-26; L.R. Kimball Comments at 20-21; Motorola Comments at 12-13; TCS Comments at 17; T-Mobile USA Comments at 5-6.
[21] *Second FNPRM* ¶ 77.

and cost-effective solutions"[22] is sound. Bandwidth.com would also support a governing principle that establishes "that when an interconnected VoIP user accesses the Internet to place an emergency call, the underlying broadband provider must be capable of providing location information regarding the access point being used by the device or application, using industry-standard protocols."[23]

As noted by the Commission and several commenters, manual entry of location information or "Registered Location" by VoIP subscribers will always have inherent weaknesses.[24] Subscribers will often forget or otherwise neglect to update their location or enter inaccurate or invalid information.[25] Unfortunately, these issues are generally not identifiable until the subscriber places a 911 call and accurate information is required, but not available. It is for these reasons that the developers of the NENA NG911 architecture fully anticipated the need to determine, host, and deliver location information. In most instances, the broadband provider is in the best position to determine its subscriber's location and provide that information to PSAPs or first responders. For IP services that are more fixed in nature, the broadband provider likely installed its subscriber's broadband connection and, therefore, knows where the customer is located. If the subscriber moves or changes its service, the broadband provider will have the subscriber's new location. Further, for network management, identification and other purposes, the broadband provider can determine where its subscriber accesses the network when the subscriber initiates a broadband connection.

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[22] *Second FNPRM* ¶ 72.
[23] *Id.*
[24] *See Second FNPRM* ¶ 69 (noting that the current Registered Location requirement "remains dependent upon subscribers manually and accurately entering their location information and updating it in a timely manner."); *id*. ¶ 70 (acknowledging the "limitations of the Registered Location method"); *see also* NENA Comments at 14.
[25] *See Second FNPRM* ¶ 69 (noting that automatically determined location information is "less subject to data entry errors, lack of timely updates, and possible misrepresentations").

The second component of the process is the delivery of initial location and updates to PSAPs. As Dash argued in its previous comments, the static ALI database in use today is ill-suited to provide location information for any mobile or nomadic communications service.[26] ALI database service, as it exists today, cannot and will not meet the needs of existing and new service providers.[27] The manner envisioned to address this need in the NG911 system is the Location Information Server ("LIS"). The LIS would likely be hosted by the service or access provider and be specifically designed to support next-generation services. By moving the responsibility for the LIS to the service or access provider, the system is far more capable of determining, storing, updating, validating and providing location information to first responders. In order to advance the goals of increasing location accuracy, Bandwidth.com recommends that the Commission promote the deployment of the full NG911 architecture, including the LIS, as defined by NENA, and ensure that the roles and responsibilities of each entity involved are properly aligned to support the timeliness and accuracy of information provided by the LIS. The Commission should also encourage the industry to develop innovative approaches to location determination for all current and new services. Leveraging organizations such as the IETF GEOPRIV[28] and CSRIC for these purposes makes sense.

In order to promote the development of technologies for automatically determining a VoIP subscriber's location via a broadband connection, the Commission must ensure that the regulations governing NG911 include appropriate incentives and protections for access

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[26] *See* Dash Location Accuracy Comments, at 7; *see also* Reply Comments of Bandwidth.com in *NG9-1-1 NOI* proceeding at 6 ("[Y]esterday's [ALI] will be increasingly irrelevant as we migrate to NG9-1-1.").
[27] *See id.*
[28] *See Second FNPRM* ¶ 72 (highlighting that the "IETF GEOPRIV working group has defined a suite of protocols that allow broadband providers to provide location information to subscribers' devices through standard protocol interfaces").

providers, as well as service providers. Bandwidth.com believes that the key to solving the location determination challenges lies with the access providers. Developing a framework that encourages the appropriate participation of this group is the first step. Setting clear expectations around accuracy and timeliness is the second. With the framework in place, the industry will develop creative solutions. Congress and the Commission should contemplate mechanisms to promote the active participation by access providers in determining a subscriber's location. Except where regulation is necessary to ensure critical functionality, Bandwidth.com strongly supports approaches other than regulation. A collaborative process that includes the industry, regulators, and public safety, the results of which would be subject to periodic review and revision, could produce more effective, less onerous guidelines than potentially inflexible regulations.

Bandwidth.com urges the Commission to refrain from requiring the use of certain technological approaches to address the need for location information for three main reasons. As a technology company itself, Bandwidth.com appreciates how technology evolves to address challenges in innovative ways. The VoIP industry has witnessed rapid evolution since its inception. IP-based services are delivered over a variety of platforms by a broad range of providers from traditional wireline and cable companies to wireless networks and to stand-alone application providers. Defining requirements in technological terms in such a rapidly changing environment would likely mean the regulations are out of date as soon as they are published.[29] Further, the pace of implementation of new technologies will be delayed waiting for regulations

[29] As Bandwidth.com submitted in the *NG9-1-1 NOI* proceeding, several commenters share Bandwidth.com's concern that references to legacy technologies be replaced with technology-neutral language that promotes innovation and interconnection between different types of service providers. *See* Bandwidth.com Reply Comments at 4 (citing comments of Time Warner Cable, Inc., at 3; T-Mobile USA, Inc., at 3; California PSCO, at 1, 6; L.R. Kimble, at 19-20).

to catch up. Thus, Bandwidth.com agrees with the Commission's decision to adopt general principles to govern the roles and responsibilities of the entities that will be providing NG911.[30] These general principles, combined with standards setting through inclusive and effective industry organizations, will further the Commission's goal to enhance public safety without sacrificing market-driven innovation.[31] For this reason, the Commission's decision not to propose specific requirements at this time is a more effective way to promote the best and most feasible location delivery methods for IP-enabled services.

III. CONCLUSION

Bandwidth.com urges the Commission to develop a regulatory regime for IP-enabled services that furthers its goal of phasing in NG911 networks throughout the country. NG911 should then ensure that IP-enabled services are allowed to develop in a competitively and technologically neutral marketplace while simultaneously promoting fundamental public safety goals that any device can be used on any system in any location and be capable of providing accurate and effective information to first responders. The Commission's proposal to establish general governing principles together with industry led standards setting efforts promises to be an effective mix of the requisite regulatory oversight and continued innovation that embraces the enhanced capabilities and functionalities that are feasible in a NG911 network.

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[30] *See Second FNPRM* ¶ 3.

[31] Many of the comments filed in response to the *NG9-1-1 NOI* echo this call for a standards-based regulatory regime that will enable 9-1-1 while advancing innovation and competition among NG9-1-1 participants. *See* Comments of AT&T Inc. at 20-21; Comments of APCO at 7-8; Comments of NENA at 2, 4, 6-9, 11-12, 15-16; Comments of Intrado Inc. and Intrado Communications Inc. at 6-9; Comments of Telecommunications Systems, Inc. at 10-12; Comments of the Public Safety Communications Office of the California Technology Agency at 10-11; Comments of L.R. Kimball at 14; Comments of T-Mobile USA, Inc. at 2-6.

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